REMARKS

Claims 1-18 and 20-22 are pending in the present application. Claim 1 is in independent form. Claims 1, 6, 13, 15-18 and 20-22 are amended. Claim 19 is cancelled. In view of the above amendments and the following remarks, favorable reconsideration and allowance of the present application is respectfully requested.

Initially, Applicants appreciate the Examiner's acknowledgment that all certified copies pertaining to foreign priority claimed under 35 U.S.C. §119 have been received and the indication that the references submitted in the Information Disclosure Statement filed on August 30, 2006, November 6, 2006 and September 19, 2008 have been considered.

I. REQUEST FOR ENTRY OF AMENDMENTS

By the present Amendment, claims 1, 6, 13, 15-18 and 20-22 are amended to address the matters raised by the Examiner. In particular, Applicants submit that the amendments to claims 1, 6, 13, 15-18 and 20 are supported, at least, by the subject matter recited in the original claims. The amendments to claim 21 are supported, at least, by page 23, lines 11-13 of the original Specification. The amendments to claim 22 are supported, at least, by page 22, lines 2-5 of the Specification. Thus, Applicants submit that the amendments do not introduce new matter.

II. ALLOWABLE SUBJECT MATTER

Applicants appreciate the Examiner's indication that claims 2-5, 7-12 and 14 would be allowable if rewritten into independent form including all of the limitations of the base claim and any intervening claims. However, in view of the above amendments and the following remarks, Applicants submit that all of the pending claims are now in condition for allowance.

III. 35 U.S.C. §112, FIRST PARAGRAPH REJECTION

Claims 18 and 19 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. Applicants respectfully traverse the rejection.

In particular, the rejection states that "[t]he claims recite the treatment or prophylaxis of a disease in which down-regulation or inhibition of the expression or function of the IGF-1 receptor is beneficial, but the specification is not enabled for such a scope." Action, p. 2. The rejection further states that, however,

> The scope of claims is not adequately enabled solely based on the assay activity provided in the specification. First, the instant claims cover different chemical compounds and different cell proliferative diseases. At page 43, the therapeutic effect of the examples shows activity of the cell lines in the treatment of breast cancer. There is nothing in the disclosure regarding how this data correlates to the treatment of all diseases in which down-regulation or inhibition of the expression or function of the IGF-1 receptor is beneficial or the prophylaxis of all diseases in which down-regulation or inhibition of the expression or function of the IGF-1 receptor is beneficial.
>
> Action, p. 3.

The Examiner states that the claims are enabled for the treatment of breast cancer. See page 2 of the Action.

By the present Amendment, claim 18 is amended to recite "leukemia, breast cancer, melanoma cancer or prostate cancer" instead of "a disease," and claim 19 is cancelled.

Applicants submit that the Specification enables the treatment of a variety of diseases including breast cancer. In particular, the Specification states that cancers, in which IGF-1R is unregulated or overexpressed and which can be prevented and/or treated by the compound (I) include, but are not limited to, cancers of prostate, colon, lung, brain, pancreas and melanoma, multiple myeloma, lymphoma and leukemia, as well as breast cancer (as noted by the Examiner). See page 22, ll. 10-15 of the Specification.

Furthermore, page 2 of the Specification mentions the down-regulation of the IGF-1 receptor for treating cancers such as melanoma by V.M. Macaulay et al., and lymphatic leukemia by Akira Akahori et al. (both submitted in the IDS filed on November 6, 2006). Furthermore, one of ordinary skill in the art at the time of the invention would have know that the down-regulation of the IGF-1 receptor is used for treating breast and prostate cancer. For example, T.E. Adams et al., Structure and function of the type 1 insulin-like growth factor receptor, CMLS Cell Mol. Life Sci., Vol. 57, pp. 1050-1093 (2000) relates to the down-regulation of IGF-1 receptor levels for treating breast and prostate cancer (also submitted in the IDS filed

on November 6, 2006). Thus, the treatment of the diseases (specifically, leukemia, breast cancer, melanoma cancer and prostate cancer) recited in amended claim 18 are enabled by the Specification, and/or are within the grasp of one having ordinary skill in the art at the time of the invention. Furthermore, Applicants submit that the steps needed to practice the method of treating a subject are well-known in the art.

As discussed above, the Specification recognizes certain pharmacological properties and activity (namely, the down-regulation or inhibition of the expression or function of the IGF-1 receptor) associated with subjects having the specified diseases.

> In *In re Bundy*, 642 F.2d 430, 434, 209 USPQ 48, 51-52 (CCPA 1981), the court ruled that appellant's disclosure was sufficient to enable one skilled in the art to use the claimed analogs of naturally occurring prostaglandins even though the specification lacked any examples of specific dosages, because the specification taught that the novel prostaglandins had certain pharmacological properties and possessed activity similar to known E-type prostaglandins.
>
> MPEP §2164.06(b).

Also, page 20, line 18 – page 21, line 26 of the Specification discusses how the compound having formula (I) is administered. Further, under the section entitled *Biological Data*, the Specification discusses the treatment of human cancer lines including Jurkat (leukemia cell line), MCF-7 (breast cancer cell line), and SK-MEL 28 (melanoma cell line).

The rejection states that "[t]here is no reasonable basis for assuming that the myriad of compounds embraced by the claims will all share the same physiological properties since they are so structurally dissimilar as to

be chemically non-equivalent and there is no basis in the prior art for assuming the same." Action, p. 3.

However, at least for the reasons given above, the Specification establishes that the specified disease share certain pharmacological properties and activity. Furthermore, there is ample evidence that supports the same in the numerous references submitted by Applicants, and cited in the Specification.

The rejection further states "[t]he claim sets forth the treatment of cancer broadly. However, there never has been a compound capable of treating cancer generally nor cell proliferative diseases such as atherosclerosis, restenosis, psoriasis, rheumatoid arthritis..." Action, p. 4.

However, several of the cited references have associated the down-regulation of the IGF-1 receptor with diseases ranging from cancer to psoriasis to autoimmune diseases to atherosclerosis to restenosis. For example, page 2 of the Specification mentions (i) the reversal of epidermal hyper proliferation in psoriasis lesions by using antisense oligonucleotides to inhibit the IGF-1 receptor expression in kerotyinocytes by Christopher J. Wraight et al. (submitted in the IDS filed on November 6, 2006), and (ii) the down-regulation of the IGF-1 receptor for treating autoimmune diseases such as diabetic retinopathy by Laura K. Shawver (submitted in the IDS filed on September 19, 2008), and atherosclerosis and restenosis by Antoni Bayes-Genis et al. (submitted in the IDS filed on November 6, 2006).

Furthermore, Applicants remind the Examiner of MPEP §2164.01(a),

which states that "[t]he fact that experimentation may be complex does not necessarily make it undue, if the art typically engages in such experimentation. *In re Certain Limited-Charge Cell Culture Microcarriers*, 221 USPQ 1165, 1174 (Int'l Trade Comm"n 1983), *aff'd. sub nom., Massachusetts Institute of Technology v. A.B. Fortia*, 774 F.2d 1104, 227 USPQ 428 (Fed. Cir. 1985). See also *In re Wands*, 858 F.2d at 737, 8 USPQ2d at 1404."

For at least the above reasons, Applicants respectfully request that the Examiner reconsider and withdraw the §112, first paragraph rejection to claim 18.

IV. 35 U.S.C. §112, SECOND PARAGRAPH REJECTION

Claims 1, 6, 13, 15, 19, 20 and 21 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point and distinctly claim the subject matter which Applicant regards as the invention. Applicants respectfully traverse the rejection.

With regard to claim 1, the rejection states that (i) the term "general" should be deleted, (ii) the term "an d" should be amended to "and," and (iii) the phrase "and pharmaceutically acceptable salts" should be amended to recite "or pharmaceutically acceptable salt." '

By the present Amendment, claim 1 has been amended as suggest by the Examiner.

With regard to claims 6 and 19, the rejection states that the terms

"preferably" and "such as" are improper.

The terminology "preferably hydrogen" has been removed from claim 6, and claim 19 is cancelled. Further, claim 17 is amended to recite "including" instead of "such as."

With regard to claims 13 and 20, the rejection states that the claims improperly depend on claim 1.

Claim 13 has been amended to recite "[t]he compound according to claim 1, wherein the compound is one selected from the group consisting of..." Claim 20 has been amended to recite "[a] pharmaceutical composition, comprising: the compound of formula (I), or the pharmaceutically acceptable salt thereof according to claim 1; and a pharmaceutically acceptable adjuvant, diluent or carrier."

The rejection states that claims 1 and 15 are essentially duplicates.

Claim 15 has been amended to recite "[a] medicament, comprising the compound according to claim 1."

The rejection further requests clarification regarding the class of invention for which claim 21 is directed to.

For the sake of clarification, amended claim 21 is directed to a kit. As noted above, this amendment is supported, at least, page 23, lines 11-13 of the original Specification.

For at least these reasons, Applicants respectfully request that the Examiner reconsider and withdraw the §112, second paragraph rejection to claims 1, 6, 13, 15, 20 and 21.

V. 35 U.S.C. §101 REJECTION

Claims 16, 17 and 22 stand rejected under 35 U.S.C. § 101 for failing to set forth any steps involved in the process.

In particular, the rejection states that the "...because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101." Action, p. 6.

Amended claim 16 is directed to a method of preparing a medicament for prophylaxis or treatment of a disease in which down-regulation or inhibition of the expression or function of the IGF-1 receptor is beneficial, comprising utilizing the compound according to claim 1. Amended claim 17 is directed to the method according to claim 16. Amended claim 22 is directed to a method of evaluating the effects of inhibitors interfering with cell division by blocking cells in prophase of the mitotic cycle, comprising utilizing the compound according to claim 1 as a pharmacological tool in the development and standardization of *in vitro* and *in vivo* test systems. Thus, amended claims 16, 17 and 22 clearly set forth the steps involved in the claimed methods.

For at least these reasons, Applicants respectfully request that the Examiner reconsider and withdraw the §101 rejection to claims 16, 17 and 22.

CONCLUSION

Accordingly, in view of the above, reconsideration of the objections and rejections and allowance of each of claims 1-18 and 20-22 in connection with the present application is earnestly solicited.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicants hereby petition(s) for a three (3) month extension of time for filing a reply to the outstanding Office Action and submit the required $555.00 extension fee herewith.

Should there be any matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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